ABSTRACT

A system and method for updating a binary image stored across a block-structured memory device, such as a flash memory device. From comparison of original and new images, an update package is generated which includes an encoded instruction set comprising COPY and ADD operations instructing the copying of source data from locations in the memory device and adding other data provided in the update package. The instruction set comprises SETBLOCK operations that direct updating of the memory blocks in an order that optimizes the COPY and ADD operations required and resulting update package size. The instruction set further comprises SETCOPYOFFSET operations to toggle between copy-offset modes thereby allowing for improved efficient encoding of COPY operations. The update package further includes an array of status bits corresponding to the memory blocks to be updated, thereby allowing for reliable restarting of the update process following power loss or other interruption.